

- 1 1. Method for assembling into sets gas turbine engine components having flow  
2 passages comprising classifying the flow capability through the flow passages of  
3 each one of a plurality of the gas turbine engine components; and assembling into  
4 sets gas turbine engine components having the same flow capability classification.
- 5 2. The method of claim 1 wherein the engine components are gas turbine engine  
6 turbine blades with internal cooling passages and holes for film-cooling.
- 7 3. The method of claim 1 wherein the engine components are gas turbine engine  
8 turbine vanes with internal cooling passages and holes for film-cooling.
- 9 4. The method of claim 1 wherein the engine components are gas turbine engine  
10 turbine seals.
- 11 5. The method of claim 1 wherein the engine components are blades in any stage of  
12 the turbine section of a gas turbine engine.
- 13 6. The method of claim 1 wherein the engine components are vanes in any stage of  
14 the turbine section of a gas turbine engine.
- 15 7. The method of claim 1 wherein the engine components are seals in any stage of  
16 the turbine section of a gas turbine engine.
- 17 8. The method of claim 1 wherein the turbine components are blades in any stage of  
18 the compressor section of a gas turbine engine.
- 19 9. The method of claim 1 wherein the turbine components are vanes in any stage of  
20 the compressor section of a gas turbine engine.
- 21 10. The method of claim 1 wherein the turbine components are seals in any stage of  
22 the compressor section of a gas turbine engine.

- 1 11. The method of claim 1 wherein the flow classification includes a high-flow  
2 capability class and a low-flow capability class.
- 3 12. The method of claim 1 wherein the flow classification includes more than two  
4 flow capability classes ranging from a low-flow capability class to a high-flow  
5 capability class.
- 6 13. The method of claim 1 wherein the flow classification includes flow capability  
7 classes that are subsets of acceptable flow limits for gas turbine engine  
8 components having internal flow passages.
- 9 14. The method of claim 1 wherein the flow classification produces sets of  
10 components with increased high-temperature oxidation life capability.
- 11 15. The method of claim 1 wherein the flow classification produces sets of  
12 components with increased high-temperature creep life capability.
- 13 16. The method of claim 1 wherein the flow classification produces sets of  
14 components with increased high-temperature life capability.
- 15 17. The method of claim 1 wherein the required nominal amount of flow of the  
16 engine component can be reduced while maintaining high-temperature life  
17 capability.
- 18 18. The method of claim 1 wherein the required nominal amount of flow of the  
19 engine component can be reduced while maintaining the intended nominal  
20 performance of the component.
- 21 19. The method of claim 1 wherein the material of the engine component can be  
22 changed to a less capable material while maintaining the intended nominal  
23 performance of the component.

- 1    20.    The method of claim 1 wherein the turbine inlet temperature is increased while  
2           maintaining the intended nominal performance of the component.
- 3    21.    Gas turbine engine comprising gas turbine engine components assembled into  
4           sets, each said component having flow passages establishing a flow capability  
5           classification, wherein each said component in a set has the same flow capability  
6           classification.

7